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World Survey of Civil Aviation

SELECTED ASIAN COUNTRIES and OCEANIA

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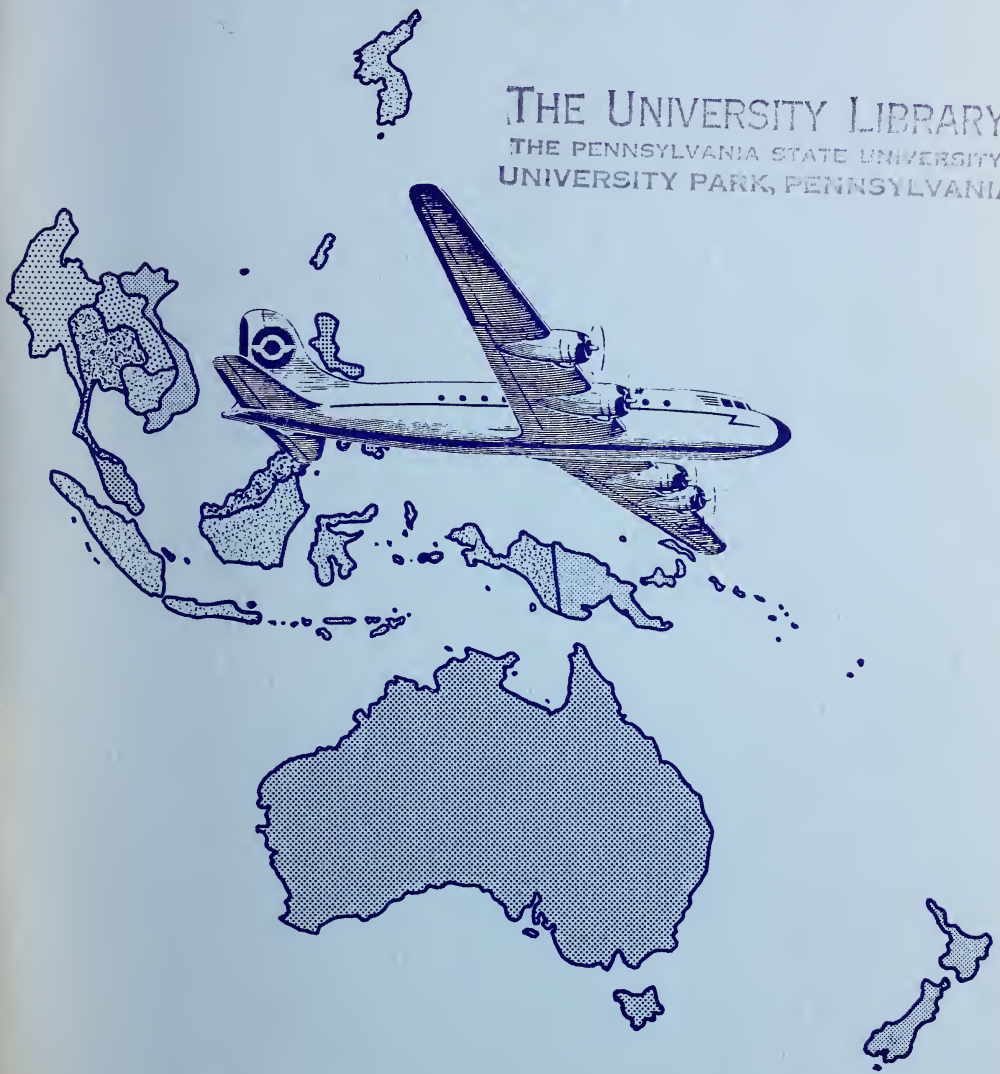

U.S. DEPARTMENT OF COMMERCE
BUSINESS AND DEFENSE SERVICES ADMINISTRATION

World Survey of Civil Aviation

SELECTED ASIAN COUNTRIES and OCEANIA

1961

U.S. DEPARTMENT OF COMMERCE
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BUSINESS AND DEFENSE SERVICES ADMINISTRATION

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Foreword

This is the fifth in a series of foreign market surveys of civil aircraft and aeronautical products throughout the world. Previous publications have covered Japan, Africa, Southwest Asia, and the Near and Middle East. The series discusses aircraft fleet composition and commercial and general flight operations. Special emphasis is given to market potential, trade and investment opportunities, and competitive factors affecting sales of U. S. aircraft and aeronautical products.

Special appreciation is extended to the following members of the U. S. Foreign Service and others at Foreign Service posts abroad who supplied the basic data:

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Not all the countries discussed herein publish official aircraft registers. In these instances, the aircraft statistics were obtained from various official and private sources and compiled by the U. S. Foreign Service.

This publication was prepared by Rolf R. Nordlie, Transportation Equipment Division. Further details on any of the countries discussed herein may be obtained from the Division.

Eugene P. Foley
Deputy Assistant
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November 1961

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Selected Asian Countries: An Overall View

The 12 countries discussed in this publication have a combined land area of nearly 1.5 million square miles, a little less than one-half that of the United States, and a population of more than 200 million. Most of them have tropical or subtropical climates, and extensive forest coverage. In this underdeveloped region, agriculture and forestry are the bases of the economies, except in Hong Kong. The governments are attempting to improve the economies by promoting both public and private investment.

THE ROLE OF AVIATION IN THE FUTURE OF SELECTED ASIAN COUNTRIES

Air service is of vital importance in these Asian countries, especially because it provides rapid transportation across wide ocean areas and across countries in which land transportation is poorly developed. Passenger flights will probably continue to be the major type of air service. The air cargo industry is limited, ocean shipping providing the least expensive transportation for the agricultural and mineral products of the region. Business and pleasure flying probably will not increase a great deal because of the low income level. The now limited use of agricultural aircraft will probably increase when more modern farming techniques are introduced. Most of the countries have a major international airport capable of handling large modern aircraft. However, domestic facilities need improvement.

AIRCRAFT IN USE

About 460 aircraft are registered in the civil air fleets, and a little more than 200, mostly multiengined planes, are used by the airlines. About 30 of these planes are owned by nonscheduled operators. The airlines have about 100 DC-3's, and 17 turboprops, mostly Viscounts. General aviation uses more than 250 aircraft, about 30 of which are multiengined. The governments have about 40. A few planes are in charter and agricultural service, and the rest in business and pleasure flying.

MARKET POTENTIAL

Aircraft are not domestically manufactured, and the U. S. exported more than $4 million worth of aircraft, parts, and accessories to the region in 1958, more than $6 million in 1959, and

about $500,000 in 1960. The U. S. supplies most--about 75 percent--of the area's aircraft partly because of the low cost of World War II surplus aircraft. In the future, the U. S. will have more sales competition because of higher replacement costs.

Taiwan plans to import a Convair 880, and the Philippines, 2 DC-8's. Indonesia is negotiating for the purchase of Comet jets from the United Kingdom, and several other airlines have expressed a desire for aircraft. The market for long-range piston-powered aircraft, of which the U. S. has a surplus, is now limited because most regional airlines prefer modern jet aircraft.

The market potential, especially for planes in general aviation use, depends on the economic growth of the region and, to a lesser extent, on an increase of tourist trade. Although most of the countries have exchange controls, a low income level limits the number of U. S. imports. However, U. S. equipment has a fine reputation. As in other underdeveloped regions, aircraft buyers are interested in rugged aircraft and a large supply of spare parts.

Burma

The Republic of Burma has an area of about 260,000 square miles, a little less than that of the State of Texas, and a population of almost 20 million. It has high narrow mountain ranges in the north and west, a broad river basin extending south through the central region, and a dissected plateau in the east. The climate is tropical. The three seasons are cool and dry, hot and dry, and rainy.

ROLE OF AIR TRANSPORTATION

Extensive air service is beyond the country's present economic capability. In the fourth quarter of 1959, railroads traveled more than 260 million passenger miles, and airlines only slightly more than 5 million. Of the 36 civil airports, 4 are international, the principal one being at Mingaladon, Rangoon. Civil aviation is regulated by the Directorate of Civil Aviation, Ministry of Marine and Civil Aviation.

AIRCRAFT IN USE

The civil air fleet has about 20 aircraft. The airline owns about 17, mostly DC-3's and Viscounts. The 4 aircraft in general aviation include single and twin-engined transports.

COMMERCIAL AIRLINES

Service

The Union of Burma Airways (UBA), the only national flag airline, is owned and operated by the Government. It serves 26

domestic airfields with 9 DC-3's, and Bangkok with 2 Viscounts. It leases one Viscount to Kuwait Airways.

Disposal and Reequipment Programs

The Union of Burma Airways is considering replacing its aging DC-3's with the Fokker F-27, Avro 748, and Handley Page Dart Herald.

GENERAL AVIATION

A DH Sea Otter, and an Airspeed Consul, 2 of the 4 general aviation aircraft, are owned by the Directorate of Civil Aviation. The other 2 are a DC-3, owned by a mining firm, and a DH Dove, owned by an oil company.

MARKET POTENTIAL

The present market for transport aircraft is limited to replacements for aging DC-3's. If the airline's proposals for extension of international service to Canton, China, are adopted, additional aircraft may be needed, probably Viscounts. The market for general aviation aircraft is small because few private individuals can afford to buy their own planes. All imports except those of the Government must be licensed. A 2 1/2-percent ad valorem duty is imposed on aircraft, parts, and accessories.

Burmese Civil Air Fleet—21

Commercial airlines, total	17
Union of Burma Airways:	
Douglas DC-3	9
Vickers Viscount	3
De Havilland Dove	3
Auster Autocrat	1
Ilyushin Il - 14	1
General aviation, total	4
Directorate of Civil Aviation:	
De Havilland Sea Otter	1
Air Speed Consul	1
Burma Corporation, Ltd.:	
Douglas DC-3	1
Burma Oil Co.:	
De Havilland Dove	1

Cambodia

The Kingdom of Cambodia has an area of 67,000 square miles, about the size of the State of Washington, and an estimated popu-

lation of 5 million. The climate is the tropical monsoon type. Most of the country is flat, and the great central basin of the Mekong River and Lake Tonle Sap is an excellent rice-growing area. The economy is essentially agricultural; only the rudiments of industry have been established.

ROLE OF AIR TRANSPORTATION

Air transportation is not a large industry. The purchase of needed aircraft is beyond the country's financial resources. There are 6 commercial airfields and 30-40 unimproved airstrips, mostly at the rubber plantations. The airfields at Phnom Penh and Siem Reap are used for scheduled domestic and international services, and only one other airfield, that at Kompong Som, is used for commercial flights.

AIRCRAFT IN USE

The airline uses 1 DC-3. Sixteen aircraft are in general aviation use, and most of these are light single-engined utility aircraft.

COMMERCIAL AIRLINES

Service

Royal Air Cambodge (RC) is the only national flag airline. Air France, which manages the airline, owns 40 percent, and domestic interests own 60 percent. The airline leases its DC-3 from Air France, and has a pooling arrangement with Air France on a weekly 707 flight to Hong Kong. It offers scheduled international service to Bangkok and Saigon, and scheduled domestic service from Phnom Penh to Siem Reap. Phnom Penh is also served by Thai Airways and Air Viet-Nam, and in the near future will probably be a stop for TU 104's of the Czech Airlines on a weekly Prague-Djakarta run.

Disposal and Reequipment Programs

Because of its leasing arrangement with Air France, the airline has no disposal or reequipment plans.

GENERAL AVIATION

General aviation activity in Cambodia is limited. Of the 16 mostly single-engined planes, all but 2 were manufactured in the U. S. Most of them are used by the plantations. However, the Civil Aviation Department has a Cessna 182 and the Aero Club, 4 Cessnas.

MARKET POTENTIAL

General aviation is the only market for aircraft. The size of this market is limited by lack of capital and maintenance and

repair facilities. Imports of aircraft and parts are not taxed. However, licenses issued by the Directorate of Foreign Trade and approval by the National Exchange Office in the National Bank of Cambodia are required. These licenses restrict trade to essential imports.

Cambodian Civil Air Fleet—17

Royal Air Cambodge:	
Douglas DC-3	1
General aviation, total	16
Government:	
Cessna 182	1
Aero Club:	
Cessna 140	2
Cessna 170	1
Cessna 170B	1
Business:	
Cessna 172	1
Cessna 180	1
Cessna 182	1
Cessna 210	1
Beechcraft C35	4
Piper PA20	1
De Havilland DHC 2	1
Max Holste 1521	1

Hong Kong

The Crown Colony of Hong Kong has an area of about 400 square miles, one-fourth that of the State of Rhode Island. Its population is estimated at 3 million. Although most of the country is hilly and unarable, some farming is done in the valleys. The summers are hot and humid and the winters mild. Although the entrepôt trade is still economically important, industry now outranks it. The Government exercises a minimum of control over the economy.

ROLE OF AIR TRANSPORTATION

Air service provides the rapid international passenger and freight transportation vital to industry and to the entrepôt and tourist trades. Although passenger service constitutes the major part of airline operations, air cargo shipments are increasing because of the growth of light industry. The Colony's small size limits the demand for domestic air service.

Kai Tak, the major international air terminal, is served by about 17 foreign flag airlines. It has been expanded to accommo-

date large jet aircraft. New terminal facilities are now being constructed. The privately owned Hong Kong Aircraft Engineering Co., Ltd., located at the airport, has large modern overhaul and repair facilities and offers services to civil and military aircraft, and to many small national airlines. The Department of Civil Aviation regulates civil aviation and operates the airport.

AIRCRAFT IN USE

The Colony has 14 aircraft in its civil air fleet: 8 are multi-engined transports used by the 2 airlines, 2 are helicopters, and 4 are single-engined trainer aircraft. Seven of the aircraft owned by the airlines and one of the aircraft in general aviation are manufactured in the United States.

COMMERCIAL AIRLINES

Service

Hong Kong has one major international airline, Cathay Pacific Airways, and one domestic airline, Macau Air Transport Company. In 1959, a third airline, Hong Kong Airways, Ltd., merged with Cathay Pacific. Cathay Pacific Airways offers international service to India, Japan, and Australia, with 2 turboprop Electras, 2 DC-6's, 1 DC-4, and 1 DC-3. The company is privately owned and adequately financed. Macau Air Transport Company has 2 aircraft: One PBY flying boat, which transports gold, and 1 Piaggio amphibian, which provides passenger service. Both fly from Macau to Hong Kong.

Disposal and Reequipment Programs

The airlines have no known disposal or reequipment plans.

GENERAL AVIATION

General aviation activity is limited to the Government and a small privately owned flying school. The use by private planes of the only civil airport is restricted because of the rugged terrain and proximity of Communist China, and private planes are not allowed at all on the unused military landing strip at Selk Kong. The Far East Flying Training School offers flying and aviation engineering courses. However, because of private flight restrictions the school is concentrating on engineering rather than on flying instruction.

MARKET POTENTIAL

The market potential is limited. However, the continued success of Cathay Pacific may provide a small market for transport aircraft. Cathay Pacific can purchase new aircraft more easily than some other Asian airlines because it has substantial financial

backing. The airline is satisfied with its Electras. Aircraft and parts may be imported duty free. Although licenses are required, no quantitative restrictions are set.

Hong Kong Civil Air Fleet—14

Commercial airlines, total	8
Cathay Pacific Airways, Ltd.:	
Douglas DC-3	1
Douglas DC-4	1
Douglas DC-6	2
Lockheed Electra	2
Macau Air Transport Co.:	
Consolidated PBY	1
Piaggio P-136-L2	1
General aviation, total	6
Far East Flying Training School, Ltd.:	
Auster MK-5	1
Stinson L-5	1
De Havilland Tiger Moth	1
De Havilland Chipmunk	1
Government:	
Westland Widgeon helicopter	2

Indonesia

The Republic of Indonesia consists of 6 main islands or island groups and more than 3,000 smaller islands. Its total land area is 576,000 square miles, about the size of the U. S. east of the Mississippi, and the population is estimated at 92 million. Most of the country is mountainous; a central range runs the breadth of the archipelago arc. The climate is hot and humid and consists of wet and dry seasons.

ROLE OF AIR TRANSPORTATION

The multiisland geography contributes to the importance of aircraft. Fourteen major and 20 minor airports are served by the national airline. Commercial air traffic is limited mostly to passenger service; few potential users can afford air cargo transportation. Djakarta is served by 10 foreign flag airlines. Civil aviation is regulated by the Civil Aviation Department, Ministry of Communications.

AIRCRAFT IN USE

On January 1, 1961, 87 aircraft were registered; 36 in commercial aviation, and 51 in general aviation. Those in commercial aviation include Convair 240's, 340's, 440's; Douglas DC-3's;

and Lockheed Electra turboprops. They are all U. S.-built. Those in general aviation include 12 twin-engined transports, and 39 single-engined utility and trainer aircraft. The two most common kinds of planes are the De Havilland (DH) Chipmunks, of which the Air Academy has 12, and the DC-3's.

COMMERCIAL AIRLINES

Service

Garuda Indonesian Airways, the only national flag airline, is owned and operated by the Government. Offering scheduled and nonscheduled service to 34 domestic airfields and international service to Singapore, Burma, and the Philippines, it hopes to extend its services to Tokyo and Hong Kong.

Disposal and Reequipment Programs

Garuda does not have any aircraft on order, but reportedly is negotiating with De Havilland for the purchase of 4 Comet 4C jets.

GENERAL AVIATION

Indonesia has 51 aircraft in general aviation use, 23 of which are used for instruction, 16 for business and crop dusting, 4 for policing, and 5 for private flying. Three DHC Otter aircraft, ordinarily controlled by the Department of Air Communications, are on loan to the Indonesian Air Force, which is pioneering a feeder-line service in Kalimantan for Garuda. Thirty-nine are single-engined and the rest are 2-engined. More than half the total were manufactured in the United States.

MARKET POTENTIAL

Because of the geography of the country, more aircraft, airports, and navigation facilities will probably be needed. However, the size of this market, of course, depends on economic growth and a larger supply of foreign exchange, the small amount of which the Government now allocates to development projects. The scarceness of foreign exchange limits the buyers of general aviation aircraft to those who can obtain Government approval for their imports. The Government's Civil Aviation Academy is interested in replacing its DH Chipmunk aircraft with new, possibly Cessna, equipment. Other Government departments also wish aircraft.

Some of Garuda's older Convairs and DC-3's will need to be replaced. However, because many of the airfields from which they operate are too small for large planes, Electras and Comets will not serve as substitutes. The airline has indicated its interest in turbine-powered equipment. Aircraft and parts may be

imported duty free, but they must have licenses. These licenses are granted only if the items are considered vital to the country.

Indonesian Civil Air Fleet—87

Commercial airlines, total	36
Garuda Indonesian Airways:	
Convair 240	5
Convair 340	8
Convair 440	3
Douglas DC-3	17
Lockheed Electra	3
General aviation, total	51
Government:	
Department of Air Communications:	
De Havilland Otter	3
Civil Aviation Academy:	
Auster J/5E	1
De Havilland Chipmunk	12
Saab Safir 91B	3
Saab Safir 91C	3
Police:	
Cessna 180	3
Aero 560A	1
Business and crop dusting:	
Douglas DC-3	8
Piper Super Cub	6
Grumman Mallard	2
Private:	
Zlin-Z126	1
Super Aero 45	1
Piper L45	1
Stinson 108-3	1
Auster J/5F	1
Aeroclub Djakarte:	
Piper L4J	4

Korea

The Republic of Korea has an area of about 38,000 square miles, a little more than the State of Indiana. The population is estimated at 23 million. Although the country is mostly mountainous, the eastern part has some lowland areas, and a small coastal plain. The climate is characterized by moderately cold and dry winters and hot humid summers.

ROLE OF AIR TRANSPORTATION

Railroads are the principal means of transportation for freight and passengers. Air transportation is used for rapid service be-

tween the major cities and for international transportation. Air navigation facilities and airports are being improved with U. S. aid. Aviation is regulated by the Civil Aviation Section, Ministry of Transportation.

AIRCRAFT IN USE

The civil air fleet has 5 aircraft. All are multiengined transports, including the Douglas DC-3, DC-4, the Lockheed Constellation, and the Convair 240.

COMMERCIAL AIRLINES

Service

Korean National Airline, or *Koreaniar* (KNA), is a privately owned corporation operating 2 DC-3's, 1 DC-4 and 1 Lockheed Constellation. It has flights to 6 domestic cities and to Hong Kong and Taipei. A second airline, Air Korea, was licensed in January 1961, and it has acquired 1 Convair 240 for its domestic routes. The 3 foreign flag airlines which also provide international service are Civil Air Transport (CAT), Cathay Pacific Airways, and Northwest Orient Airlines.

Disposal and Reequipment Programs

Korea National Airlines has no disposal or reequipment plans. Air Korea plans to acquire another Convair 240 for domestic use, and possibly a DC-7 for international service between Seoul and Tokyo. Reportedly, the aircraft will be obtained from the U. S. Until local personnel can take over, the company will use U. S. pilots and maintenance crews.

GENERAL AVIATION

There is no general aviation activity.

MARKET POTENTIAL

The market for aircraft is limited. The country is small, and cannot afford extensive air service. Aircraft and parts are not subject to import duties or licensing restrictions. However, because of the shortage of foreign exchange all foreign exchange transactions must be cleared by the Ministry of Transportation and the Bank of Korea.

Korean Civil Air Fleet--5

Commercial airlines, total	5
Korean National Airline:	
Douglas DC-3	2
Douglas DC-4	1
Lockheed Constellation	1
Air Korea:	
Convair 240	1

Laos

The Kingdom of Laos has an area of about 91,000 square miles, approximately the size of Pennsylvania and New York combined, and a population estimated between 1.5 and 3 million. It has much rugged mountain terrain, particularly in the north. The limited economic activity centers in the broad valley of the Mekong River. Temperatures and humidity are high, and the climate consists of wet and dry seasons. Unsettled political conditions make the assessment of future aviation activity difficult.

ROLE OF AIR TRANSPORTATION

Because Laos has no railroads and only about 3,500 miles of roads, of which about 1,200 are paved, air transportation is important. Fourteen airfields have facilities for DC-3 aircraft and 23 for only light aircraft. Civil aviation is regulated by the Directorate of Civil Aviation, Ministry of Transportation.

AIRCRAFT IN USE

At the beginning of 1960, 26 civil aircraft were registered, of which the 9 De Havilland Beavers were the most numerous single type. Fourteen were mulitengined transports and the rest were single-engined utility types.

COMMERCIAL AIRLINES

Service

Air Laos and *Veha Akat*, both of which are privately owned, are the 2 scheduled national flag airlines. Air Laos has 13 aircraft: 5 Boeing Stratocruisers, 5 DHC Beavers, 2 DC-3's, and 1 C-46. It schedules flights to 7 domestic airfields and to Malaya, Indochina, and Burma. *Veha Akat* has 6 aircraft: 3 Dragons, 1 Norseman, and 2 Beavers. It schedules only domestic flights to 5 airfields.

Nonscheduled airline activity is limited to 6 small airlines, using 7 aircraft. The airlines and their planes are as follows: Laos Air Service, 1 Dragon; *Tourisme Travail Aerian*, 1 Tri-Pacer; *Akat Lao Neua*, 1 Beaver; *Sithon Akat*, 1 Dragon; Laos Air Transport, 1 Beechcraft C-45; and *Office Commercial d'Approvisionnemente*, 2 Cessna 190's. The 2 foreign flag airlines, Thai Airways and Air Viet-Nam, schedule flights to Viet-Nam and Thailand.

Disposal and Reequipment Programs

The airlines have no known disposal or reequipment programs.

GENERAL AVIATION

General aviation activity is negligible.

MARKET POTENTIAL

The market potential for aircraft is limited because of the low income level. Except for the De Havilland Beaver, which is considered one of the most practical aircraft, U. S.-made planes are preferred. No import duties or licensing restrictions are imposed on aircraft and parts. The currency is freely convertible.

Laotian Civil Air Fleet—26

Commercial airlines, total	26
Scheduled:	
Air Laos:	
Boeing Stratocruiser	5
Douglas DC-3	2
Douglas C-46	1
De Havilland (Canada) Beaver	5
Veha Akat:	
De Havilland 89 Dragon	3
De Havilland (Canada) Beaver	2
Noorduyn Norseman	1
Nonscheduled:	
Laos Air Service:	
De Havilland Dragon	1
Tourisme Travail Aerian:	
Piper Tripacer	1
Akat Lao Neua:	
De Havilland (Canada) Beaver	1
Sithon Akat:	
De Havilland 89 Dragon	1
Laos Air Transport:	
Beechcraft C-45	1
Office Commercial d'Approvisionnomente:	
Cessna 190	2

Malaya and Singapore

The Federation of Malaya has an area of about 51,000 square miles, slightly more than the State of New York. The population is estimated at more than 6 million. The State of Singapore, located at the southern tip of Malaya, has an area of 215 square miles and a population of 1.5 million. Mountain ranges, some of

which reach an elevation of more than 7,000 feet, extend from north to south. Dense forest covers the mountains and interior lowlands. The climate is tropical. Malaya, which depends mostly on agriculture for subsistence, also exports rubber and tin. Singapore is an entrepôt port for the surrounding territories.

ROLE OF AIR TRANSPORTATION

Air transportation is limited. The Malayan road and rail networks are among the best in southeast Asia. In recent years, the extensive roadbuilding program has reduced the demand for domestic air transportation. However, international service has become more important, especially to Singapore. Malaya and Singapore both have Departments of Civil Aviation. Several airfields are being improved, including the one at Singapore, and a new airport is planned for Kuala Lumpur.

AIRCRAFT IN USE

Malaya Airways, Ltd., has 15 aircraft: 11 DC-3's, 3 Beavers, and 1 Viscount. General aviation uses 20 aircraft, 4 of which are manufactured in the United States, and the rest in Great Britain.

COMMERCIAL AIRLINES

Service

Malay Airways, Ltd., is the only national flag airline in both Malaya and Singapore. British Overseas Airways Corporation and Qantas Empire Airways, Ltd., jointly own 51 percent; the governments of Malaya, Singapore, Brunei, Sarawak, and North Borneo the rest. The main office is in Singapore. The airline's 15 aircraft are used on scheduled flights to 9 domestic airfields and on international flights to Indonesia, Thailand, Hong Kong, North Borneo, Sarawak, and Brunei. Malaya is served by 5 scheduled foreign flag airlines, and Singapore by 12.

Disposal and Reequipment Programs

The airline has no known disposal or reequipment programs. However, its DC-3 aircraft are aging and replacements will be needed.

GENERAL AVIATION

The 20 aircraft in general aviation activity are single-engined. The 3 flying clubs have 11 training aircraft, and a Government agency has a Beaver. The other 8 aircraft are used for business and pleasure flying.

MARKET POTENTIAL

The airline will need replacements for its DC-3's. Although U. S. equipment is well-liked, the airline will probably favor British equipment because of the British interest in the airline. The field of general aviation will probably grow and provide a modest market for light aircraft. Aircraft and parts may be imported duty free under general license.

Singapore and Malayan Civil Air Fleets—35

Singapore, total	22
Commercial airlines, total	15
Malayan Airways, Ltd.:	
Douglas DC-3	11
De Havilland Beaver	3
Vickers Viscount	1
General aviation, total	7
Business:	
Miles Gemini M65	1
Piper PA-22	1
Aero club:	
De Havilland Chipmunk	1
De Havilland DH82	1
Cessna 150	1
Cessna 172	2
Malaya, total	13
General aviation:	
Aero club:	
De Havilland DH82	4
Auster III	1
Auster 5	1
Government:	
De Havilland Beaver	1
Business or pleasure:	
Auster III	1
Auster 5	3
De Havilland Beaver	1
De Havilland Tiger Moth	1

Philippines

The Republic of the Philippines is an archipelago of about 7,000 islands in an area about 1,200 miles long and 700 miles wide. Eleven of the islands account for about 95 percent of the total land area of 115,000 square miles, a little more than the State of Arizona. According to the 1960 census, the population, is 27.5 million. Topographic features include extensive valleys, forests, plateaus, low marshlands, and coastal plains.

Elevations range from a foot or two above sea level to peaks nearly 10,000 feet high. Sixty percent of the labor force farms. Although mining and manufacturing industries have grown since World War II, the country still depends on foreign trade for most manufactured and semimanufactured goods. The Government is promoting the growth of private industry by providing only basic public utilities, and by directing foreign exchange to important private investment concerns.

ROLE OF AIR TRANSPORTATION

Some 60 civil airfields and 32 private airstrips serve the country. Air service is being extended to cover remote rural areas. The main international airport at Manila is being expanded and modernized, using Export-Import Bank financing. The Civil Aeronautics Administration in the Department of Public Works, Communication, and Transportation administers the airfields and air navigation facilities, and the Civil Aeronautics Board regulates civil aviation.

AIRCRAFT IN USE

Of the 167 aircraft registered, 42 are owned by the 3 commercial airlines and 117 are in general aviation use. More than half of the national airlines aircraft are DC-3's; other major types are Viscounts, Fokker F-27's, and Twin Pioneers. General aviation has 4 twin-engined aircraft and the rest are single-engined light utility types. Only 1 aircraft in general aviation and 13 in airline use are not manufactured in the United States.

COMMERCIAL AIRLINES

Service

Philippines Airlines (PAL) is the only scheduled national flag airline. It is both publicly and privately owned, the Government being the controlling stockholder. PAL schedules flights to about 60 domestic airfields and to Hong Kong and hopes to offer a flight to the United States. The 42 aircraft include 3 Viscounts, 4 Otters, 1 Convair 340, 2 Fokker F-27's, 4 Twin Pioneers, 1 helicopter, and 27 DC-3's. The Otters and the Convair are now out of use. In addition to its regular services, the airline also uses its Twin Pioneer aircraft for rural and feeder flights.

The Philippines have several small nonscheduled airlines. Philippine Air Transport Service (PATS) of Manila Airport operates 4 single-engined aircraft for nonscheduled domestic flights. Pacific Airways Corporation (PAC) of Manila Airport operates 4 single-engined aircraft in domestic and international service.

Flemming Air Service Transport (FAST) of Manila operates a maintenance and repair shop for light aircraft. The company

has operated single and multiengined aircraft in the past and may do so again in the future. Manila Aviation Service of Manila Airport has no aircraft but has a permit to offer nonscheduled flights to the United States. Manila International Airport is served by 11 scheduled foreign flag airlines.

Disposal and Reequipment Programs

Philippine Airlines has 2 DC-8's on order and plans to dispose of its Otter and Convair aircraft and to replace its aging DC-3's.

GENERAL AVIATION

About 90 percent of the 117 aircraft in general aviation is used for private or business flying. The rest include 5 aircraft used for charter purposes, 4 for crop dusting, 2 by the Government, about 7 by the FEATI Flying School, and a small number by three flying clubs.

MARKET POTENTIAL

Because of the resignation of PAL's top management, the future plans of the airline are uncertain. However, the airline will need aircraft to replace its DC-3's. The only market for long-range piston-powered aircraft is the small one of nonscheduled operators.

The Government has classed aircraft as an essential "producers' item," and foreign exchange is available under the system of exchange controls. All imports of aircraft and parts are subject to a 10-percent duty except those from the U. S. , which are admitted at a preferential tariff rate of 5 percent. This duty will rise to 7.5 percent in 1962, and to 10 percent in 1964. Imports are aslo subject to a special tax of 8.5 percent of the c.i.f. value, which will be reduced to 6.8 percent in 1962, and thereafter 1.7 percent per year until eliminated. If aircraft are imported for use in an industry that earns dollars, the importer may obtain dollars at a preferential rate of 2.75 pesos to the dollar plus the 15-percent margin fee, rather than the free market rate of 3 pesos to the dollar plus the 15-percent margin fee.

Philippine Civil Air Fleet—167

Commercial airlines, total	50
Scheduled:	
Philippine Airlines:	
Vickers Viscount	3
De Havilland Otter	4
Convair 340	1
Douglas DC-3	27
United Helicopters UH12B	1
Fokker F-27	2
Scottish Aviation Twin Pioneer	4

Nonscheduled:	
Philippine Air Transport Service (PATS)	
Stinson L5E	1
Piper L4J	1
Luscombe 8A	1
Cessna 180	1
Pacific Airways Corp. (PAC):	
Stinson L5B	3
Piper PA-16	1
General aviation, total	117
Charter:	
Cessna 170A	3
Cessna 175	1
Stinson L5E	1
Agriculture:	
Boeing PT 13 E-75	2
Boeing PT 130	2
Government:	
Stinson L5E	1
Douglas C-47A	1
Private and business:	
Beechcraft C35	1
Beechcraft B50	2
Beechcraft 18S	1
Beechcraft E-35	2
Beechcraft F-35	1
Beechcraft J-35	1
Beechcraft B-35	2
Beechcraft 95	1
Auster MK5	1
Cessna 170A	1
Cessna 170B	3
Cessna 172	3
Cessna 180	4
Cessna 182	1
Cessna 140	2
Engineering Research Corp. 415C	4
Piper L4J	40
Piper PA-16	1
Piper PA-18	1
Piper PA-20	2
Piper PA-22	2
Stinson L5	6
Stinson L5B	7
Stinson L5E	4
Stinson 180-2	3
Luscombe 8E	1
Fairchild PT26A	1
Ryan STM-S2	1
Texas Engineering Co. Swift CC1B	2
Great Lakes 2T-1A	1
Boeing PT 130	2
Boeing PT 13B	1
North American Navion	2

Taiwan

Taiwan has an area of about 14,000 square miles, about the size of the combined areas of the States of Massachusetts and Connecticut, and a population estimated at more than 10 million. The country is two-thirds mountainous. Its climate is subtropical and consists of hot humid summers and mild winters.

ROLE OF AIR TRANSPORTATION

Air service is the major passenger link to the rest of the world. The island does not have scheduled passenger service by ship. Despite good roads and railroads, domestic air service is used extensively by both business and Government. Civil aviation is administered by the Civil Aeronautics Administration. Airfields and air navigation facilities are being improved with U. S. aid.

AIRCRAFT IN USE

Of the 43 aircraft in the civil air fleet, 31 are used by the airline. Except for a helicopter, all the airline aircraft are multiengined transports, the most numerous type being Douglas DC-3's. General aviation has 7 twin-engined transports, and 5 single-engined utility aircraft.

COMMERCIAL AIRLINES

Service

Civil Air Transport (CAT), though privately owned, is the designated Government air carrier. It owns 3 DC-3's and leases the rest of its aircraft from its affiliate, Asiatic Aeronautical Co., Ltd., (Air Asia). It is the only scheduled national flag airline and offers flights to 4 airfields on Taiwan, and to the Pescadores Islands, Okinawa, Japan, the Philippines, Hong Kong, and Thailand.

Under contract, Air Asia supplies capital, equipment, management, and personnel to CAT for its aviation activities. It has maintenance facilities, which have been licensed by the Government and approved by the U. S. Federal Aviation Agency. It also has a contract with the U. S. Government for the repair and overhaul of U. S. military aircraft. The company is licensed to conduct nonscheduled air transport operations outside Taiwan, and its 14 aircraft, most of which are leased to CAT, include Douglas DC-3's, DC-4's, 1 DC-6, Curtis Wright Commandos, Consolidated PBY's, and a helicopter.

China Air Lines offers nonscheduled passenger and cargo service with 5 aircraft: 2 DC-3's, 2 C-46's, and 1 PBY. Far Eastern Air Transport Corporation (FAT) also offers a nonscheduled service, using 2 PBY's and 6 twin-engined Beechcrafts. Foshing Airlines (FAL) suspended all flight operations in 1958

after it lost 2 aircraft, but still owns a DC-4. The airline is the agent on Taiwan for Thai Airways International, a U. S. airlines, and Air France. It also has a contract with the U. S. Air Force to perform ramp service, line maintenance, and other minor maintenance services for U. S. aircraft at Taipei International Airport. Taipei is served by 5 foreign flag airlines: Northwest Orient Airlines, Cathay Pacific Airways, Korean National Airways, Japan Airlines, and Thai International Airways.

Disposal and Reequipment Programs

Air Asia has ordered a Convair 880 for delivery in 1961, which will be used for CAT's international flights.

GENERAL AVIATION

General aviation activity is limited to a flying club and the Government. The China Flying Club has 3 aircraft: 2 Boeing PT-17's and 1 L-5 Sentinal. The Civil Aeronautics Administration has 7 Curtis C-46's; other Government agencies have a helicopter and an L-5.

MARKET POTENTIAL

The market for aircraft and parts is limited. However, Civil Air Transport hopes to improve the quality of its fleet, and may sell or release 2-engined planes and purchase a DC-6 in the next few years. Aircraft and parts are duty free, but an import license is required.

Taiwan Civil Air Fleet—43

Commercial airlines, total	31
Scheduled:	
Civil Air Transport:	
Douglas DC-3	3
Nonscheduled:	
Asiatic Aeronautical Co., Ltd.:	
Douglas DC-6B	1
Douglas DC-4	2
Curtiss Wright C-46	4
Douglas DC-3	4
Consolidated PBY-5	2
Helicopter	1
Far Eastern Air Transport Corp.:	
Consolidated PBY-5	2
Beechcraft C45	6
China Airlines:	
Curtiss Wright C-46	2
Douglas DC-3	1
Consolidated PBY-5	2
Foshing Airline:	
Douglas DC-4	1

Taiwan Civil Air Fleet—43-Con.

General aviation, total	12
China Flying Club:	
Boeing PT-17	2
Convair L-5	1
Government:	
Civil Aeronautics Administration:	
Curtiss Wright C-46	7
Other civil agencies:	
Bell Helicopter	1
Convair L-5	1

Thailand

The Kingdom of Thailand has an area of almost 200,000 square miles, roughly four-fifths the size of Texas, and a population of more than 25 million. The main topographic features are low mountain chains running north and south, separated by wide river basins. In the tropical monsoon climate, temperatures rarely fall below 60° F. or rise above 90° F.

ROLE OF AIR TRANSPORTATION

Aviation is a small industry. The government encourages international air service in order to promote tourism; it has provided a modern airport at Bangkok and has welcomed its use by international airlines. About 20 domestic civil airfields are large enough to accommodate DC-3's; 7 can accommodate only light planes. Civil aviation is regulated and administered by the Civil Aviation Board and the Civil Aviation Administration, Ministry of Communications.

AIRCRAFT IN USE

Fourteen aircraft are registered in the civil air fleet. The commercial airlines have 13, including Douglas DC-3's, DC-4's, and DC-6's. A Piper Apache is the only aircraft in general aviation use.

COMMERCIAL AIRLINES

Service

Thailand has 2 national flag airlines, one providing domestic and the other international service. The Government-owned and-operated Thai Airways Company (TAC), using a fleet of 2 DC-4's and 7 DC-3's, provides domestic service to 10 airfields. Thai Airways International, Ltd., (THAI), also Government-owned, provides international service to India, Indonesia, and Japan, using 4 DC-6B's. Scandinavian Airways System (SAS) is a minority

shareholder of THAI and supplies technical and administrative personnel and aircraft. Don Muang International Airport at Bangkok accommodates 17 scheduled foreign flag airlines.

Disposal and Reequipment Programs

Thai Airways Company is trying to sell its 2 DC-4's, which are no longer needed because the company makes no more international runs. It also wants to replace its DC-3's and is interested in the Avro 748. However, financing is difficult for the airline.

GENERAL AVIATION

The only aircraft in general aviation use is a Piper Apache used by the Irrigation Department of the Government. Private flying is not encouraged.

MARKET POTENTIAL

The market for aircraft and parts is limited. Aircraft and parts are admitted duty free, and no licensing restrictions exist.

Thailand Civil Air Fleet—14

Commercial airlines, total	13
Thai Airways Co.:	
Douglas DC-3	7
Douglas DC-4	2
Thai Airways International, Ltd.:	
Douglas DC-6B (Leased from SAS)	4
General aviation, total	1
Government:	
Piper Apache	1

Viet-Nam

The Republic of Viet-Nam has an area of about 66,000 square miles, about the size of the State of Washington. The population is estimated at nearly 13 million. The main topographic features are a plateau in the west, a mountain chain 5-6 thousand feet high in the east, and the delta of the Mekong River in the south. The climate is tropical.

ROLE OF AIR TRANSPORTATION

Air transportation is not a large industry. About 10 airports accommodate DC-3-size aircraft. A number of smaller airfields are being improved with U. S. assistance. Aviation is regulated

by the Directorate of Civil Aviation, Department of Public Works and Communications.

AIRCRAFT IN USE

Viet-Nam has 36 aircraft in its civil air fleet. Nine multiengined transports are used by the scheduled airline, and 27 single-engined light utility models are in general aviation activity.

COMMERCIAL AIRLINES

Service

Air Viet-Nam (AVN) is the only national flag airline. The Government holds the controlling, and Air France a minor interest. It offers service to 10 domestic airfields, and international service to Cambodia, Thailand, Laos, and Hong Kong. Its 9 aircraft include 6 DC-3's, one of which is owned by the French Embassy, Saigon, 1 DC-4, and 2 Viscounts. When the Viscounts were leased from Air France in January 1961, the DC-4 and 2 DC-3's became available for charter or lease. Viet-Nam is also served by 3 scheduled foreign flag carriers at Tan Son Nhut Airport at Saigon, the main international airport.

Disposal and Reequipment Programs

Air Viet-Nam hopes to purchase 2 aircraft in order to increase domestic service to small airstrips.

GENERAL AVIATION

The general aviation air fleet has 27 single-engined aircraft, 14 of which belong to the plantations, and 10 of which belong to the 3 flying clubs. Aeroclub *Sud Viet-Nam* has 6 aircraft, Aeroclub *Locninh* 3, and Aeroclub *Vietnamien* 1. A charter service, *Enterprise de Transport Aerien en Indochine*, has the rest.

MARKET POTENTIAL

The commercial airline has no aircraft on order. The demand for aircraft in general aviation is limited by the low income level. Seven of the airline's 9 aircraft and 18 of the 27 aircraft in general aviation are manufactured in the United States. Import licensing controls are imposed on aircraft and parts, but they are admitted duty free. However, a 25-percent production tax based on the c.i.f. value is imposed.

Viet-Nam Civil Air Fleet—36

Commercial airlines, total	9
Air Viet-Nam:	
Douglas DC-3	6
Douglas DC-4	1
Vickers Viscount	2
General aviation, total	27
Aeroclub Sud Viet-Nam:	
Nord 1203/11	1
Norecrin NC 859S	1
Piper PA-12	4
Sporting Aeroclub Locninh:	
Piper PA-16	2
Piper PA-12	1
Aeroclub Vietnamien:	
Piper PA-18	1
Charter:	
Enterprise de Transport Aerien en Indochine:	
Nord 1203/11	3
Business:	
Nord 1203/11	2
Stinson Voyager	3
Piper PA-12	1
Ryan Navion	2
Beechcraft Bonanza C-35	1
De Havilland DHC-2	1
Cessna 195 B	1
Auster V	1
Stinson	2

Oceania: An Overall View

Oceania, which includes Australia, New Zealand, and the islands of the southwest Pacific, has a total land area of about 3.2 million square miles and a population of 13.6 million. Australia has many plateaus, and New Zealand is mountainous. Both Australia and New Zealand have mild climates and export grain, meat, and wool. The southwest Pacific islands have a varying typography and warm, humid climates. Their economic significance is small, and growth potential limited.

THE ROLE OF AVIATION IN OCEANIA'S FUTURE

The importance of international and domestic aviation will probably continue. The use of aircraft by businessmen, farmers, and sportsmen is increasing.

AIRCRAFT IN USE

About 2,000 aircraft are used in civil air fleets. About 200 of these are multiengined airline transports, many of which are Douglas DC-3's. The remaining aircraft, in general aviation use, are mostly single-engined, and many of these are De Havilland Tiger Moths.

MARKET POTENTIAL

Australia and New Zealand will probably remain good markets. Their economies are well-developed. The value of aircraft and spares imported into the region from the U. S. amounted to $1.6 million in 1958, $53 million in 1959, and $18 million in 1960. Competition for the sale of U.S. aircraft in Australia and New Zealand is strong because preferential tariffs are granted to Commonwealth countries, and Australia's civil aircraft manufacturing industry, though small, is growing. However, about 38 percent of all aircraft in these 2 countries are U. S.-built. The growth of the limited market for aircraft in the southwest Pacific islands depends on increased tourist traffic.

The principal domestic airlines have recently reequipped with turboprops, including Electras, for trunkline operations. The major international airline has just purchased Boeing 707's. The market for general aviation aircraft is good, including sporting aircraft for the aero clubs, and planes for agriculture and for personal transportation. The market for long-range piston-powered aircraft is limited and surplus piston aircraft are domestically available.

Australia

The Commonwealth of Australia has an area of about 3 million square miles, almost the size of the United States. The population is estimated at 10.4 million. The topography has 3 main features: eastern highlands, central plain, and western plateau. The winters are mild and the summers warm. The lack of adequate rainfall in much of the country limits population increase. Australia is a major manufacturing nation.

ROLE OF AVIATION

Because of Australia's large size and unsatisfactory rail, road, and coastal shipping facilities, domestic civil aviation has become an important part of the transportation industry. The domestic airlines have carried a total of 16.5 million passengers without a single fatality for the past 8 years. International air transportation is important because of the distance to Europe and the United States.

The Government is interested in civil aviation. It requires the two major domestic lines to consult with each other on schedules and aircraft used on competing routes. Recently, it has encouraged local ownership of airports by offering about 100 free airfields to various authorities. It also subsidizes domestic carriers for performing essential but unprofitable rural services. Mac Robertson-Miller Airline and Connellan Airways, Ltd., shared half of the subsidy which totaled $1,125,000 in fiscal year 1958. Most of the balance was shared about equally between Trans Australian Airlines and Ansett--ANA. All major airports are owned and operated by the Department of Civil Aviation or the Royal Australian Air Force. The two major international airports are located at Sydney and Darwin; 70 other major airports and numerous small airfields are scattered throughout the country.

Aeronautical manufacturing has declined since World War II. In 1960, the aviation construction industry's labor force was estimated at 6,800, and the wartime peak was 54,000. However, the production of utility aircraft has been increasing. The three major aircraft manufacturing firms--Commonwealth Aircraft Corporation, Government Aircraft Factory, and De Havilland Aircraft Pty., Ltd.,--produce mostly military aircraft. These three companies together will produce a new fighter for the Air Force for which the French Mirage is the model.

Several small firms produce light aircraft. Norman Hamilton Enterprises Pty., Ltd., Wangaratta, is constructing a factory to build the Jackeroo light aircraft. This aircraft will be comparable to a U. S. aircraft, the Stits Flut-R-Bug. Descon Aviation Pty., Ltd., Sydney, plans to manufacture a light 2-seat aircraft called the Skyscooter under license from a U. S. company. Victa Consolidated Industries Pty., Ltd., Sydney, will produce a low-wing

cabin monoplane, the Air Tourer, having a 90 or 100 horsepower engine. Part of the funds for the development of this aircraft were provided by the aero clubs; the aircraft is designed to meet their needs. The production of agricultural and general utility aircraft by the small companies will probably increase and compete with foreign aircraft.

AIRCRAFT IN USE

At the end of 1960, about 20 percent of the 1,370 aircraft in the civil air fleet were multiengined, and about 35 percent were U. S.-built. About 66 percent of the nearly 170 aircraft used by the scheduled airlines in early 1961 was U. S.-built, and the most numerous type was the DC-3. Other types included Viscounts, F-27's, Electras, and Boeing 707's. General aviation had about 1,200 aircraft, of which 10 percent was multiengined, and 30 percent U. S.-made. The most numerous makes, in order of their popularity, were De Havilland, Auster, Cessna, Piper, Percival, and Douglas.

Statistics on aircraft in use in May 1959, and June 1960, are as follows:

	1959	1960
Scheduled public transport	149	162
Charter service	245	289
Aerial work	382	393
Private use	467	516
Total	1,243	1,360

COMMERCIAL AIRLINES

Service

Scheduled domestic service is provided by six airlines. Trans Australian Airlines (TAA) and Ansett-ANA, the two major airlines, are a Government-fostered duopoly which operates over the main trunk routes. These 2 airlines, and 4 smaller ones, also fly an extensive network of feeder routes. In 1960 they carried 2.7 million passengers, an increase of nearly 6 percent over 1959. Trans Australian Airlines is owned by the Government and operated by the Australian National Airlines Commission. It carries more passengers than any other domestic airline, and during fiscal year 1959, carried more than 1 million passengers on its route network of 22,000 miles. Its air fleet includes 3 Electras, 15 Viscounts, 8 F-27's, 14 DC-3's, 3 DC-4's, and 3 Hiller 12C helicopters.

Ansett-ANA is owned by Ansett Transport Industries, Ltd. It is second in size to TAA. Since 1957, when it was combined with Australian National Airlines (ANA), it has acquired 3 small domestic airlines: Airlines of New South Wales, Airlines of South Australia, and Queensland Airline Pty., Ltd. These small

airlines fly from rural areas to the major Ansett terminals. The air fleet of Ansett-ANA includes 3 Electras, 6 Viscounts, 6 Fokker F-27's, 4 DC-6B's, 2 DC-6's, 6 Convair 440's, 2 DC-4's, 25 DC-3's, 3 Bristol 170's, 2 Short Sandringham S-25's, 1 Auster, and 3 Bell-47 helicopters.

Both TAA and Ansett-ANA offer flights to the trust territories of Papua and New Guinea. In 1960, Trans Australian Airlines took over the facilities and aircraft of Qantas serving New Guinea. Ansett-ANA purchased Mandated Airways, the largest privately owned air carrier in New Guinea. Mandated will continue operating its 9 DC-3's without a change in name. Mandated also has 2 small subsidiary companies, Gibbs Sepik Airways, Ltd., and Madang Air Services Pty., Ltd., which provide domestic service in New Guinea with 6 light aircraft. Papuan Air Transport, Ltd., an independent New Guinea airline, offers service with 1 Piaggio amphibian and 1 DC-3.

Mac Robertson-Miller, Ltd. (MMA) flys a route network of 22,000 miles over undeveloped and sparsely populated western Australia, using an air fleet of 1 F-27, 6 DC 3's, 1 DH Dove, and 1 Avro Anson. Connellan Airways, Ltd., flys to about 100 small airports in central Australia, using an air fleet of 4 Beechcraft, 4 Cessnas and 1 De Havilland 89A. East-West Airlines (EWA) operates a local and a feeder service to Sydney from northern New South Wales and Brisbane, using 1 Fokker F-27, 4 DC-3's, 2 Hudson's, and 1 Beechcraft B-50. Woods Airways Pty., Ltd., flys its only route, from Perth to Rottnest--a distance of 26 miles--with 2 Avro Ansons.

Qantas Empire Airways, Ltd. (Qantas), Australia's international airline, is Government-owned and has a route network of 62 thousand miles. Its air fleet includes 7 Boeing 707's, 4 Lockheed Electras, 8 Super Constellations, 3 DC-4's, 8 DC-3's, and 4 DH Otters. The Super Constellations are used to supplement the 707 and Electra services, and for cargo work. Qantas operates its Sydney to London "Kangaroo" route in a pool arrangement with British Overseas Airlines Corporation (BOAC) and with Air India International. In 1960, Qantas carried 149,000 passengers, an increase of 42 percent over the previous year. Seven foreign flag carriers offer scheduled service, principally to Darwin and Sydney.

Disposal and Reequipment Programs

Early in 1959 and 1960, Australian domestic airlines and Qantas purchased $130 million worth of new aircraft, including 707's, Electras, Viscounts and F-27's. Turboprops have almost completely replaced piston-engined aircraft on domestic trunkline services. The next big reequipment program is expected in 1963-64, when domestic airlines may order jet aircraft. Qantas has 3 more Boeing 707's on order to be delivered by the end of 1961, and its present fleet of 707's is being reengined. Mandated Airline will acquire 2 Piaggio Amphibians for service in New Guinea.

GENERAL AVIATION

The importance of general aviation is growing, in recent years more hours being flown by this type of aircraft than by domestic scheduled airlines. In the year ending March 1959, 150 agricultural aircraft flew 24,000 hours, serving more than 2 million acres of land. Farm economists estimate that by 1970 aircraft will service 8 million acres. Tiger Moths are the most numerous aircraft in agricultural use, but they are being replaced by more modern planes.

The Government subsidizes about 30 aeroclubs and 6 flying schools, which have about 175 aircraft, including De Havillands, Austers, Pipers, and Cessnas. Tiger Moths predominate, but they are being replaced. The two major airlines and Helicopter Utilities Pty., Ltd., and World Wide Air Services, Ltd., offer charter helicopter service. About 36 other firms offer nonscheduled, charter, and air taxi services, using aircraft ranging from Fokker Friendships to Piper Cubs.

MARKET POTENTIAL

Australia is a good potential market for general aviation aircraft and parts. Agricultural aircraft, flying club planes, pleasure craft, and light cargo planes are in demand. The demand for jets will probably increase and provide a market by 1963-64.

U. S. aircraft have a good reputation, constituting 30 percent of the total civil air fleet. The greatest competitor of the United States is Great Britain. Other Commonwealth countries, principally Canada, also export aircraft to Australia. A Sydney company is now offering 5 different types of Czech aircraft, including a sail plane. The largest of these planes is a twin-engined 5-seated monoplane called the Morava. Aircraft and parts may be imported freely, and import licenses are not required. However, a 7.5-percent import duty is imposed on United States aircraft and no duty is imposed on United Kingdom aircraft.

Australian Civil Air Fleet—1,374

Commercial airlines, total	169
Trans Australian Airlines:	
Lockheed Electra	3
Vickers Viscount	15
Fokker F-27	8
Douglas DC-3	14
Douglas DC-4	3
Hiller 12C	3
Ansett-ANA:	
Lockheed, Electra	3
Vickers, Viscount	6
Fokker, F-27	6
Douglas, DC-6	2
Douglas, DC-6B	4

Australian Civil Air Fleet—1,374—Con.

Commercial airlines, total--Con.		
Ansett-ANA--Con.		
Douglas, DC-4	2	
Douglas, DC-3	25	
Convair, 440	6	
Bristol, 170	3	
Short, S-25	2	
Bell, 47J	2	
Auster	1	
Bristol Sycamore	2	
Mac Robertson-Miller, Ltd.:		
Fokker F-27	1	
Douglas DC-3	6	
De Havilland Dove	1	
Avro Anson	1	
Connellan Airways, Ltd.:		
Beechcraft 18S	2	
Beechcraft D-50	1	
Beechcraft D-17S	1	
Cessna 182	1	
Cessna 180	3	
De Havilland 89A	1	
East-West Airlines:		
Fokker F-27	1	
Douglas DC-3	4	
Lockheed Hudson	2	
Beechcraft D-50	1	
Woods Airways Pty., Ltd.:		
Avro Anson	2	
Qantas:		
Boeing 707	7	
Lockheed Electra	4	
Lockheed Super Constellation	8	
Douglas DC-4	3	
Douglas DC-3	3	
De Havilland Otter	4	
Papuan Air Transport, Ltd.:		
Piaggio	1	
Douglas DC-3	1	
General aviation, total		1,205
Aero Commander 560E, 680E	3	
Aeronca 65C, K	2	
Air Tourer	1	
Auster J1, J2's, MKF, MK4, MK5, J5:		
All Models	202	
Avro, C19, Anson, Twin-engined models	27	
Avro, Avian, Cadet, Single-engined models	10	
BA, Eagle, Swallow	4	
Beechcraft 35, C17/L, C35, D17 R(M), D17/S, F17/D, G35, Single-engined models	9	
Beechcraft, 95, B50, D-18-S, Twin-engined models	6	
Bell Helicopters, 47G, 47J	6	
Bristol 170 Freighter	1	

General aviation, total--Con.

Commonwealth Aircraft, CA-6, CA-28 Ceres	9
Consolidated Catalina	3
Cessna C34, 150, 170A, 170B, 172, 172A, 175, 175A, 180 A-B-C, 182 A-B-C, 190, 195, 210, All single-engined models	181
Cessna, 310 A-B-C, Twin-engined models	7
Champion 7E6, 7FC	4
Chrislea CH3	4
Colonial C-2 Skimmer	1
Comper Swift C7	2
Czechoslovak Air Works, L-40 Meta Sokol, MIC, Zlin 126	3
Desoutter 2	2
De Havilland (Australia) Drover	10
De Havilland (Canada) Chipmunk, Beaver, Otter	74
De Havilland, all "Moth" models	360
De Havilland, DH84 Dragon, DH89 Rapide, DH90 Twin-engined models	20
De Havilland, Dove	8
De Havilland, Heron	1
Douglas DC-2	1
Douglas DC-3	15
Durine Turbulent	2
Edgar Percival EP9	6
Fairchild 24	13
Fawcett 120	1
Fletcher Fu 24	4
Fokker F-27	2
Genairco	3
Hiller Helicopter UH12C, 12E	2
Hindustan HT-2	1
Junkers JU 52/3M	3
Klemm, Eagle, and L25-11	2
Lockheed 10-B, 12-A, Hudson	7
Miles M2F, M3A, M3D, M28, M38, Whitney Straight	9
Miles, Gemini, M75, Twin-engined	12
Monospar ST 12	1
North American P51, MK-20,-21,-22	6
Noordyn Norseman	6
Percival, Gull 6, Vega Gull, Prentice, Proctor 1, -3, -5	31
Piper PA18A, PA20, PA22, PA24, PA25	70
Piper PA 23	2
Porterfield 35/70	1
Republic Seabee	3
Rearwin 900L	1
Ryan ST A, M	10
SAAB-91C	1
Scottish Aviation Twin Pioneer	1
Short S16/1	1
Stark Turbulent	1
Stinson, L5, Reliant, Voyager, HW75	7
Stits SA6B	2
Taylor J2	2

Australian Civil Air Fleet—1,374—Con.

General aviation, total--Con.	
Wackett CA-6	14
Waco EGC-8, YKS-6	2
Walrus 1	1
Westland Widgeon 3	1
Kingsford Smith YA-1 Cropmaster 250	1

New Zealand

The Dominion of New Zealand has a total area of 104,000 square miles, slightly less than the State of Colorado, and a population of about 2.4 million. The topography is rugged; a chain of mountains, broken by Cook Strait, crosses the two main islands from north to south. The climate is mild and moist most of the year. Agriculture is the basis of the economy, but secondary industry has expanded greatly. The country is one of the world's foremost pasture lands.

ROLE OF AVIATION

Air transportation is relatively important. Travel by rail or automobile is difficult because of the mountainous topography, and Cook Strait is most conveniently crossed by air. International air transportation is important because of the great distances to Europe and North America. Between 1948 and 1958, the number of miles that passengers were flown increased 400 percent. About 70 public and 20 private airfields serve the country. A new airport is being constructed at Mangere, a suburb of Auckland. When completed in 1963 or 1964, it will accommodate transpacific jets. This country uses aircraft in agriculture to a greater extent than any other country. Much of the pasture land is hilly and cannot be farmed by conventional methods, and aircraft provide an efficient means of spreading fertilizer and seed. Unimproved airstrips used by agricultural aircraft are estimated to number 8-12 thousand.

Cable Price Corporation of Wellington, a small agricultural aircraft firm, has imported about 100 U. S. Fletcher FU 24 agricultural aircraft specially designed for New Zealand operating conditions. These aircraft are imported in "knocked down" form and are assembled under contract by James Aviation, Ltd., and Airparts, Ltd. Many companies are engaged in maintenance and repair work.

Civil aviation is closely controlled by the Government. The Civil Aviation Administration regulates airport operations. The Air Service Licensing Authority controls entrance into the air transport industry.

AIRCRAFT IN USE

More than 600 aircraft are registered in the air fleet. The scheduled airlines have 48: Viscounts, DC-3's, Fokker F-27's, Electras, De Havilland Dominies, Bristol 170's, and 1 Solent flying boat. About 65 percent of these aircraft are U. S.-built. About 560 aircraft are in general aviation activity, approximately 300 of which are single-engined agricultural aircraft. The 36 aero clubs have a little more than 100 single-engined aircraft, which are used for instruction, pleasure flying, and charter work. The remaining aircraft in general aviation are used for business and pleasure flying and for various types of aerial work, such as aerial mapping, air drops, and charter. The percentage of U. S.-built aircraft has increased to 50 percent.

COMMERCIAL AIRLINES

Service

New Zealand is served by two major and three minor scheduled national flag airlines. Tasman Empire Airways, Ltd. (TEAL), is Government-owned, and is the only national flag airline providing scheduled international service. It has recently replaced its DC-6's and Solent flying boat with a fleet of 4 Lockheed Electras, and offers service to major Australian cities and to Fiji, Tahiti, and other islands of Oceania. New Zealand National Airways, also Government-owned, has a near monopoly on scheduled domestic flights. Its 36 aircraft, serving some 27 domestic airfields, include 4 Viscounts, 4 F-27's, 26 DC-3's, and 2 DH Dominie aircraft. During the year ending in March 1960, the airline carried 645,000 passengers, a yearly increase of 16 percent, for a total of 169 million passenger miles. Air freight traffic increased 12 percent to 3.1 million ton miles.

Three small privately owned airlines are Straits Air Freight Express, Ltd. (SAFE), West Coast Airways, Ltd., and Trans Island Airways, Ltd. The largest of these is Straits, a subsidiary of Airwork, Ltd. It operates under contract with the New Zealand railways, carrying freight across Cook Strait with a fleet of 4 Bristol 170's. During the year ending March 1958, the line flew 3 million ton miles, carrying 67.9 million pounds of freight. West Coast Airways, Ltd., a subsidiary of Southern Scenic Air Services, Ltd., operates taxi, charter, and an infrequently scheduled air service between 2 points on South Island with 1 Dominie aircraft. Trans Island Airways, Ltd., offers passenger service between Christ Church and Nelson, using a Lockheed 10A transport. A U. S. airline, Canadian Pacific Airlines, Ltd., Transport Aerians Intercontinentaux, and Qantas offer scheduled international flights to Auckland.

Disposal and Reequipment Plans

New Zealand National Airlines will replace its DC-3's with F-27's on its secondary routes, and will order more F-27's as existing runways are paved.

GENERAL AVIATION

Approximately 560 aircraft are in general aviation activity, about 300 of which are used for fertilizing, crop dusting, seeding, and air drops. The number of acres fertilized by aircraft, which was negligible at the end of World War II, rose to 800 thousand acres in 1952 and 3.5 million in 1959. Most of the agricultural aircraft are single-engined. The 36 aero clubs are subsidized by the Government and their more than 100 aircraft, mostly single-engined, include a large number of Tiger Moths presented to them by the Government after World War II. Many of the clubs are licensed for charter work in addition to other activities.

MARKET POTENTIAL

The market for U. S. aircraft and parts will probably remain good. The number of U. S. imports is increasing. The remaining Tiger Moths now need replacement, and because air cargo shipments are increasing a demand for specialized cargo aircraft will probably develop. Reportedly, the international airline may add a flight to the U. S., for which it would want jet aircraft. BOAC has suggested pooling arrangements for this service and has offered to supply the aircraft. The domestic airline is replacing its DC-3's with F-27's and Viscounts, and in the future may be interested in acquiring jets.

U. S. aircraft, parts, and accessories are subject to a 10-percent ad valorem duty and a surtax of 2 1/4 percent. Only a total 3-percent duty is imposed on aircraft imported from the United Kingdom and Canada. Import licenses must be obtained in advance of shipment, but they are not restricted as to country of origin.

New Zealand Civil Aircraft-611

Commercial airlines, total	47
Tasman Empire Airways, Ltd.:	
Lockheed Electra	4
Short, Solent	1
New Zealand National Airways:	
Vickers Viscount	4
Fokker F-27	4
Douglas DC-3	26
De Havilland Dominie	2
Strait Air Freight Express, Ltd.:	
Bristol 170 Freighter	4

New Zealand Civil Aircraft—611—Con.

Commercial airlines, total--Con.		
West Coast Airways, Ltd.:		
De Havilland Dominie	1	
Trans Island Airways, Ltd.:		
Lockheed 10-A	1	
General aviation, total		564
Aero Commander	1	
Aeronca 7 BCM	1	
Andrews A-1	1	
Auster (all models)	65	
Avro, (all single-engined models)	2	
Avro, (all twin-engined models)	3	
Beechcraft At-11	1	
Commonwealth Aircraft, Ceres B	1	
Cessna (all single-engined models)	71	
Cessna, 310 A	1	
Champion (all models)	8	
Chrislea Ch. 3	1	
De Havilland (Canada) DHC 1 Chipmunk	3	
De Havilland (Canada) DHC 2 Beaver	6	
De Havilland (all "Moth" models)	150	
De Havilland (all twin-engined models)	7	
Durine Turbulent	2	
Ercoupe	1	
Fletcher FU-24	59	
Grumman Widgeon	4	
Lincoln Sports	1	
Lockheed 18	3	
Miles (all single-engine models)	11	
Miles Gemini M-65	2	
Monospar ST 25	1	
Mooney MK 20	1	
Percival (all single-engined models)	13	
Piper (all single-engined models)	123	
Piper PA 23	3	
PLB Airtruck	1	
Porterfield 35W	1	
Rearwin	3	
Ryan, St-M	1	
SAS Monoplane	1	
Taylorcraft (all models)	4	
Hiller UH 12	2	
Bell B47	5	

Southwest Pacific Islands

The British Crown Colony of Fiji, the French territory of New Caledonia, and French Polynesia each have 1 small airline. Other islands in the region--British Solomon Islands Protectorate, Gilbert and Ellice Islands Colony; Kingdom of Tonga; and the Condominium of the New Hebrides--have no aircraft. The air-

lines serve a land area of about 70,000 square miles, having a population of more than 850,000. The topography varies from low atolls to deeply dissected mountains, and the climate is warm and humid. Industrial development is limited, though mining is important in New Caledonia. Agriculture is the main basis of the economies.

ROLE OF AIR TRANSPORTATION

Aircraft are an important means of transportation among the widely scattered Pacific islands. The islands are served by 5 scheduled foreign flag airlines. Fiji is an important stop for transpacific aircraft. French Polynesia (Tahiti) has recently expanded the airport at Papeete to accommodate long-range jets.

AIRCRAFT IN USE

Fiji, New Caledonia, and French Polynesia have 12 aircraft in their civil air fleets. Ten of these are airline multiengined transports, including 2 U. S.-made flying boats. Two single-engined utility aircraft are in general aviation use.

COMMERCIAL AIRLINES

Service

Reseau Aeriens Interinsulaire (RAI), whose headquarters is in French Polynesia, is a jointly owned subsidiary of *Transports Aeriens Intercontinentaux* (TAI) and *Messageries Maritimes*. The former operates an inter-island service with 2 flying boats--a Catalina and a Bermuda--which are owned by the Government of French Polynesia. Fiji Airlines, which has its headquarters on Fiji, is jointly owned by Qantas and TEAL. It operates an inter-island service, using 2 DH Herons and 2 Australian-made Drovers. Societe TRANSPAC has its headquarters on New Caledonia and operates an inter-island service with 1 Heron and 3 Rapides.

Disposal and Reequipment Programs

Fiji Airways hopes to acquire an amphibious DHC-2 Beaver and Societe TRANSPAC expects to purchase an additional Heron.

GENERAL AVIATION

General aviation activity in the region is negligible. On Suva Island (Fiji) 1 Piper Caribbean is used in air taxi service, and in New Caledonia 1 DH Tiger Moth is used for private flying.

MARKET POTENTIAL

The potential market for aircraft and parts is limited because the islands cannot support large air fleets. However, they will

need replacements for their present air fleets, and the airlines may expand ecause of increased tourist traffic. Fiji Airlines hopes that increased tourist traffic in the next 5 years will warrant the purchase of a small turboprop such as the Fokker F-27 Friendship. French Polynesia and New Caledonia favor French imports, imposing respectively 30-percent and 10-percent duties on U. S. aircraft. The Fiji Islands admit Commonwealth imports free, and impose a 20-percent ad valorem import tax on imports from other countries. A port and service tax of 3 3/4 percent is also imposed. Aircraft are imported under an open general license.

Southwest Pacific Islands Civil Air Fleet—12

Commercial airlines, total	10
French Polynesia:	
Reseau Aeriens Interinsulaire (RAI):	
Consolidated Catalina	1
Brewster Bermuda	1
Fiji:	
Fiji Airways:	
De Havilland Heron	2
De Havilland Drover	2
New Caledonia:	
Societe TRANSPAC:	
De Havilland Heron	1
De Havilland Rapide 89	3
General aviation, total	2
Piper Caribbean (Air Taxi)	1
De Havilland Tiger Moth	1

U. S. Exports of Aeronautical Products to Selected Asian Countries, 1958-60

(Value in dollars)

Description and country of destination	1958		1959		1960	
	Number	Value	Number	Value	Number	Value
Aircraft, and parts and accessories, total	.....	4,299,245	.....	6,049,438	.....	492,880
Commercial and civilian aircraft, total	19	3,885,676	18	5,622,275	2	103,800
Aircraft 3,000 pounds and over, empty airframe weight	9	3,731,998	8	5,469,232	2	103,800
Passenger transports, commercial, new:						
3,000-14,999 pounds	1	98,000	.....	.....	.....	.....
Malaya and Singapore	1	98,000	.....	.....	.....	.....
30,000 pounds and over	2	2,943,238	2	4,541,832	.....	.....
Hong Kong	1	1,343,238	2	4,541,832	.....	.....
Taiwan	1	1,600,000	.....	.....	.....	.....
Rotary-wing aircraft commercial, new:	4	332,750	.....	.....	.....	.....
Thailand	4	332,750	.....	.....	.....	.....
Commercial and civilian aircraft, used and rebuilt, including converted	2	358,000	6	925,400	2	103,800
Thailand	1	140,000	2	192,000	.....	.....
Taiwan	1	218,000	1	40,000	.....	.....

U. S. Exports of Aeronautical Products to Selected Asian Countries, 1958-60—Con.

(Value in dollars)

Description and country of destination	1958		1959		1960	
	Number	Value	Number	Value	Number	Value
Commercial and civilian aircraft,--Con.						
Aircraft 3,000 pounds and over,--Con.						
Commercial and civilian aircraft,--Con.						
Indonesia	.....	.....	1	65,400	.....	.....
Korea	.....	.....	2	630,000	.....	.....
Malaya and Singapore	.....	.....	.....	.....	1	75,500
Laos	.....	.....	.....	.....	1	28,300
Aircraft under 3,000 pounds, empty airframe weight	10	153,688	10	153,043	18	515,720
Utility, commercial and civilian, new	6	123,853	7	114,518	13	323,409
3 places and under	.....	.....	2	20,000	4	36,635
Malaya and Singapore	.....	.....	1	10,000	1	7,515
Philippines	.....	.....	1	10,000	1	9,000
Indonesia	.....	.....	.....	.....	2	20,120
4 places and over	6	123,853	5	94,518	9	286,774
Malaya and Singapore	1	9,042	.....	.....	3	35,745
Philippines	4	79,781	3	38,268	2	97,916
Korea	1	35,000	.....	.....	1	15,062
Thailand	.....	.....	1	42,000	3	98,685
Indonesia	.....	.....	1	14,250	.....	.....
Cambodia	.....	.....	.....	.....	2	39,366

Rotary-wing aircraft, commercial, new	.....	.....	.....	.....	2	150,311
Indonesia	.....	.....	.....	.....	2	150,311
Commercial and civilian aircraft used and rebuilt, including converted	4	29,835	3	31,525	3	42,000
Laos	.....	.....	.....	.....	3	42,000
Malaya and Singapore	1	7,335	.....	.....	.....	.....
Philippines	2	12,500	2	22,025	.....	.....
Taiwan	1	10,000	.....	.....	.....	.....
Viet-Nam	.....	.....	1	9,500	.....	.....
Parts and accessories, total	.....	413,569	.....	427,163	.....	389,080
Aircraft engines reciprocating, new, air-cooled, under 400 horsepower	19	45,304	29	81,286	32	123,263
Thailand	5	9,953	2	4,954	4	6,527
Viet-Nam	1	1,366	1	3,075	1	2,912
Cambodia	2	5,898	2	5,490	4	24,222
Indonesia	1	1,054	5	6,919	4	15,648
Philippines	8	22,675	4	14,829	15	53,702
Korea	1	2,358	7	13,769	.....	.....
Hong Kong	1	2,000	.....	.....	1	6,928
Laos	.....	.....	2	12,000	1	6,671
Singapore and Malaya	.....	.....	1	5,313	2	6,653
Burma	.....	.....	5	14,937	.....	.....
Aircraft engines, reciprocating, used and rebuilt	59	368,265	72	345,877	47	265,817
Burma	10	46,500	.....	.....	.....	.....
Thailand	2	5,828	1	1,350	.....	.....
Viet-Nam	5	22,319	3	23,328	2	5,100
Laos	2	6,867	.....	.....	9	21,150

U. S. Exports of Aeronautical Products to Selected Asian Countries, 1958-60--Con.

(Value in dollars)

Description and country of destination	1958		1959		1960	
	Number	Value	Number	Value	Number	Value
Parts and accessories,--Con.						
Aircraft engines,--Con.						
Cambodia	1	1,639	6	11,863	1	1,800
Indonesia	7	101,355	21	144,746	11	54,250
Philippines	1	8,797	5	9,809	5	14,748
Korea	1	25,000	6	22,594	4	31,269
Hong Kong	3	14,500	1	4,300	1	4,300
Taiwan	26	135,460	28	125,387	12	118,500
Malaya and Singapore	.....	.....	1	2,500	2	14,700
U. S. WORLD EXPORTS						
Aircraft, and parts and accessories, total		971,541,000	.....	768,980,000	.....	1,329,343,000
Commercial and civilian aircraft, total	1,689	204,051,000	1,628	152,962,000	2,336	537,126,000
Parts and accessories, total	.....	767,670,000	.....	616,018,000	.....	792,217,000
Aircraft engines, reciprocating, new air cooled, under 400 horsepower	1,552	4,312,000	948	2,448,000	1,464	3,715,000

Aircraft engines, reciprocating, used and rebuilt.....	1,761	7,850,000	1,250	4,846,000	1,558	10,392,000
Aircraft components, parts, and accessories, not elsewhere classified.....	.....	755,508,000	.....	608,724,000	.....	778,110,000

Source: Report No. FT 410, Part 2, U. S. Exports of Domestic and Foreign Merchandise, Bureau of the Census, U. S. Department of Commerce. World total figures from Current Industrial Reports-Complete Aircraft and Aircraft Engines, Bureau of the Census, U. S. Department of Commerce, and Federal Aviation Agency, January 1959 and December 1960.

U. S. Exports of Aeronautical Products to Oceania, 1958-60

(Value in dollars)

Description and country of destination	1958		1959		1960	
	Number	Value	Number	Value	Number	Value
Aircraft, and parts and accessories, total	.....	1,650,920	.....	53,429,591	.....	18,167,435
Commercial and civilian aircraft, total	102	1,468,184	131	53,339,833	261	17,973,135
Aircraft, 3,000 pounds and over, empty airframe weight	5	344,250	18	52,037,641	11	14,605,110
Passenger transport, commercial, new						
3,000-14,999 pounds	.....	.....	.....	.....	2	227,140
Australia	.....	.....	.....	.....	2	227,140
15,000-29,999 pounds	.....	.....	.....	.....	1	1,156,000
Australia	.....	.....	.....	.....	1	1,156,000
30,000 pounds and over	.....	.....	15	51,653,941	5	12,384,470
Australia	.....	.....	14	49,193,783	3	7,434,296
New Zealand	.....	.....	1	2,460,158	2	4,950,174
Rotary-wing aircraft, commercial, new	1	45,250	1	255,000	.....	.....
Australia	1	45,250	.....	.....	.....	.....
New Guinea	.....	.....	1	255,000	.....	.....
Commercial and civilian aircraft, used and rebuilt, including converted	4	199,000	2	129,500	3	837,000

Australia	1	39,000	2	129,500	2	800,000
New Zealand	3	160,000	.....	.....	1	37,500
Aircraft under 3,000 pounds empty airframe weight	97	1,123,934	113	1,301,092	250	3,368,025
Utility, commercial and civilian, new	91	1,074,201	87	887,776	196	2,081,032
3 places and under	38	264,562	29	197,690	32	237,258
Australia	24	175,829	26	176,818	16	126,973
New Zealand	14	88,733	3	20,872	16	110,285
4 places and over	53	809,639	58	690,086	164	1,843,774
Australia	46	725,166	49	584,945	143	1,794,335
New Guinea	4	53,908	1	9,759	2	29,194
New Zealand	3	30,565	8	95,382	19	20,245
Rotary-wing aircraft, commercial, new	.....	.....	3	170,890	14	837,553
Australia	.....	.....	3	170,890	14	837,553
Commercial and civilian aircraft, used and rebuilt, including converted	5	36,733	23	242,426	40	449,440
Australia	5	36,733	15	136,909	37	402,940
New Guinea	.....	.....	2	20,500	.....	.....
New Zealand	.....	.....	6	85,017	3	46,500
Commercial and civilian aircraft, new, not elsewhere classified	1	13,000	.....	.....	.....	.....
New Guinea	1	13,000	.....	.....	.....	.....

U. S. Exports of Aeronautical Products to Oceania, 1958-60—Con.

(Value in dollars)

Description and country of destination	1958		1959		1960	
	Number	Value	Number	Value	Number	Value
Parts and accessories, total	32	182,736	37	90,058	76	194,300
Aircraft engines, reciprocating, new, air-cooled, under 400 horsepower	23	53,531	32	79,630	52	177,313
Australia	10	26,647	21	57,765	45	127,581
New Guinea	9	18,680	7	14,876	7	16,808
New Zealand	4	8,204	4	6,989	12	32,924
Aircraft engines, reciprocating, used and rebuilt	9	129,205	5	10,428	12	16,987
Australia	3	111,635	.....	.....	7	10,027
New Guinea	4	7,132	.....	.....	.....	.....
New Zealand	2	10,438	5	10,428	5	6,960
U. S. WORLD EXPORTS						
Aircraft, and parts and accessories, total	.....	971,541,000	.....	768,980,000	.....	1,329,343,000
Commercial and civilian aircraft, total	1,689	204,051,000	1,628	152,962,000	2,336	537,126,000
Parts and accessories, total	.....	767,670,000	.....	616,018,000	.....	792,217,000
Aircraft engines, reciprocating, new, air cooled, under 400 horsepower	1,552	4,312,000	948	2,448,000	1,464	3,715,000

Aircraft engines, reciprocating, used and rebuilt	1,761	7,850,000	1,250	4,846,000	1,558	10,392,000
Aircraft components, parts, and accessories, not elsewhere classified	.....	755,508,000	.....	608,724,000	.....	778,110,000

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